I CLAIM AS MY INVENTION:

1. An inverter bypass safety switch comprising:

a contact block containing a plurality of electrical contacts, each electrical contact comprising a moveable contact and a stationary contact; and

a plurality of cams mounted in fixed relationship about a shaft and operably connected to the moveable contacts;

wherein manual rotation of the shaft and cams achieves a desired switching pattern.

2. The inverter bypass safety switch of claim 1 wherein the moveable contacts are substantially bar-shaped and have contact points at each end, and the stationary contacts are mounted to the contact block.

3. The inverter bypass safety switch of claim 2 further comprising spring loaded followers that bias the moveable contacts against the stationary contacts when the moveable contacts are not acted upon by the cams.

4. The inverter bypass safety switch of claim 3 wherein the substantially bar-shaped portions of the stationary contacts are formed of copper and the contact points are formed of silver cadmium oxide.

5. An inverter bypass safety switch comprising:



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a substantially cylindrical contact block containing a plurality of substantially cylindrical sections and having a central axis;

a shaft oriented along the central axis of the contact block,

one or more electrical contacts disposed within each section, each electrical contact comprising a substantially bar-shaped moveable contact and having contact points at each end, and a pair of stationary contacts located at either end of the moveable contacts and mounted to the section;

electrical terminals connected to the stationary contacts;

a cam disposed within each section, mounted in fixed relationship to the shaft and operably connected to the moveable contacts; and

spring loaded followers that bias the moveable contacts against the stationary contacts when the moveable contacts are not acted upon by the cams;

wherein manual rotation of the shaft and cams causes the cams to act upon the moveable contacts such that the moveable contacts move in a radial direction, breaking electrical contact with the stationary contacts, thereby achieving a desired switching pattern.

6. The inverter bypass safety switch of claim 5 further comprising a handle assembly connected to the shaft.

7. The inverter bypass safety switch of claim 6 wherein the handle assembly comprises means for locking the shaft in a desired position.

8. The inverter bypass safety switch of claim 5 wherein, if any pair of moveable and stationary contacts weld together, the shaft cannot be turned.

9. The inverter bypass safety switch of claim 5 wherein the switch is enclosed in a nonmetallic enclosure.

10. The inverter bypass safety switch of claim 5 wherein the switch is electrically connected to a motor and to a fuseblock to protect the motor against short circuits.

11. The inverter bypass safety switch of claim 5 wherein the inverter bypass safety switch is electrically connected to a disconnect switch.

12. The inverter bypass safety switch of claim 5 wherein the switch is used in conjunction with a manual motor starter to provide protection against excessive motor current and short circuits.

13. The inverter bypass safety switch of claim 1 wherein the desired switching patterns include:

a DRIVE pattern, wherein electrical power is routed through the inverter bypass safety switch to an inverter drive, from the inverter drive back to the inverter bypass safety switch and then to an application;

a LINE pattern, wherein electrical power is routed from an incoming power source through the inverter bypass safety switch and directly to the application;

an OFF pattern, wherein electrical power is disconnected from both the inverter bypass safety switch and the application; and

a TEST pattern, wherein electrical power is routed through the inverter bypass safety switch to the inverter drive, but no power is sent from the inverter drive to the application.